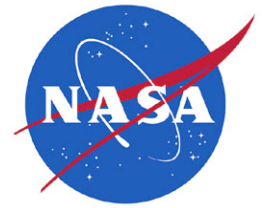


FactSheet

National Aeronautics and
Space Administration

Langley Research Center
Hampton, Virginia 23681-0001



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SMALL AIRCRAFT TRANSPORTATION SYSTEM

NASA-led technology effort aims to increase mobility, access for smaller communities



NASA prepares to fly the latest small plane technologies to demonstrate the advantages of a Small Aircraft Transportation System (SATS). This Lancair Columbia 300X has been added to the research fleet of aircraft at NASA Langley Research Center. As envisioned, the SATS concept supports prop and jet aircraft for business and personal transportation for on-demand, point-to-point trips, as well as scheduled service.

SATS: A bold vision

NASA has proposed a travel alternative to relieve congested interstate highways and hub-and-spoke airports, with the potential to revolutionize transportation accessibility and mobility.

As envisioned, the Small Aircraft Transportation System (SATS) will free people and products from existing delays, by allowing more access to more communities in less time.

To prove the SATS concept will work, NASA has initiated a five-year \$69 million research plan. NASA will conduct ground and flight research at several airports around the country, culminating in technology flight demonstrations by mid-2005.

SATS offers an on-demand, point-to-point, widely distributed transportation system. It relies on advanced 4- to 10-passenger aircraft using new operating capabilities. Such a system promises improved safety, efficiency, reliability and affordability for small aircraft operating within the nation's 5,400 public-use-landing facilities. About 98% of the U.S. population lives within 20 miles of at least one of these airports.

Can you imagine these same-day travel options?

- Business: From Chattanooga, visiting clients in Jackson, Crossville and Pigeon Forge, Tenn., and still making it back in time for your child's little league game;
- Leisure: A family of four taking an affordable weekend roundtrip visit to grandparents over 300 miles away;

- Medical: Having outpatient surgery at Johns Hopkins Medical Center in Maryland and returning to your own bed in Farmville, Va. that night for recovery;
- Package Delivery: Same day prescription drug delivery to senior citizens in smaller communities like Wisconsin Rapids, Wis. or Port Arthur, Texas.

Now imagine that the aircraft and airports needed for the previous scenarios are readily available to the public, with jet-like performance and safety at propeller-like prices.

SATS will take advantage of a new generation of safe and affordable aircraft that is emerging as a result of NASA investments in aircraft technology. Advancements include revolutionary propulsion systems, improved cockpits, synthetic vision, new communication systems and real-time weather data. These investments were made possible through NASA's General Aviation Propulsion (GAP) and Aviation Safety (AvSP) Programs, and the Advanced General Aviation Transport Experiments (AGATE).

SATS will use advanced communication technologies to eliminate the need for control towers and ground-based radar systems at small airports. These advancements will allow multiple aircraft to takeoff from and land at the smallest of neighborhood airports, in nearly all weather conditions.

Early consumers of SATS are expected to have access to "jet-taxi-services" with hired pilots. Scheduled services will likely emerge where travel demand requires and as entrepreneurs discover and meet growing consumer need.

The 5-year research plan

The SATS five-year research plan will invest in four operating capabilities: (1) high-volume operations at airports without control towers or terminal radar facilities; (2) technologies enabling safe landings at more airports in

almost all weather conditions; (3) integration of SATS aircraft into a higher capacity air traffic control system, with complex flows and slower aircraft, for en route flights; and (4) improved single-pilot ability to function competently in evolving, complex national airspace.

Public/private partnership

NASA has taken an important step towards proving the feasibility of the SATS concept. The National Consortium for Aviation Mobility (NCAM) has been selected to partner with NASA, as well as with other government agencies including the Federal Aviation Administration (FAA) and the Department of Transportation (DOT).

This federal-NCAM partnership will develop air mobility concepts for on-demand city-to-city transportation. Its research will culminate in a joint NASA/FAA/industry technology flight demonstration of the SATS operational capabilities. The results will establish the basis for future decisions by local, state and federal policy makers regarding SATS and air transportation.

NCAM is made up of over 130 members from private businesses and public entities nationwide, and expects to grow. Members include industry partners from the AGATE Alliance Association Inc.; state/regional SATLABS partnerships and other state and local aviation authorities; airport operators; general aviation manufacturers; transportation services suppliers; transportation research institutions (including universities); pilot training institutions; and suppliers of communication, navigation and surveillance systems for small transportation aircraft.

For more information on the NASA SATS program, visit <http://sats.nasa.gov>.



Affordable, small jet aircraft based on new technologies are being manufactured today. Illustrated above is the Eclipse 500 Jet, a six-place, twin-turboprop aircraft expected to cost less than most used turboprops. Its all-glass cockpit and computer industry-derived avionics and operating systems will make the most of a future small aircraft transportation system.